Ryan Chouest Data Summary
Cruise 6/19/2010

Review Date 6/20/2010

Summary:

This sampling report presents data collected from the Ryan Chouest for the period of 6/19/2010. Since 1700 hrs 06/18/2010 they sailed at full speed to just beyond Pensacola in order to make up time after our delay in port. The route sailed was close to the planned new cruise route (Figure 1). On arrival, offshore of Pensacola, the new pump casting assembly was tested in shallow water. After testing the casting system the underway system was lowered into the water and has been in operation since.

Science results and preliminary interpretation:

Fluorometer readings show medium to low concentrations for this part of the transect. The Chelsea measurements show the lowest values of the three sensors with some variability in the westernmost segment at ~30º15"N, 87 º W (Figure 2). In contrast, the Trios and Contros sensors show medium concentrations (Figures 3 and 4, respectively). The Trios sensor detected a small region at ~30º 15' N, 86 º 45' W with higher concentrations than the rest of the cruise track (Figure 3). The Contros sensor shows the highest of the values relative to the other two fluorometers, with the notable exception of a segment of relatively lower values at ~30º 15' N, 86 º 20' W (Figure 4). The low flourometer readings appear to correlate with areas of interpreted slick however it should be noted that the oiling extent map is from the previous day and therefore may not reflect the true position of the slick as the vessel travelled on the course route.

Vessel science operations:

We reached Pensacola at approximately 0130 hrs on 06/19/2010 and stopped to try the vertical fluorometer cast system for the first time. Water was pumped through the hose and Hydrocarbon Sensor Array (HSA) for 30 minutes to flush the system. As the hose was lowered several meters, the fluorometry readings on the HSA increased to anomalous levels but returned to normal readings after water flushed through the system and the optical windows had been cleaned. It is likely that the stretching of the hose is releasing bound material in the inner surface, which is not readily released via flushing alone. After the section of hose had been stretched the sensor readings were well within normal values and we are satisfied that the hose is clean. Further conditioning of the hose is required at full extension to remove all remaining contaminants before routine operations occur.

Planned route vs. Actual route taken:

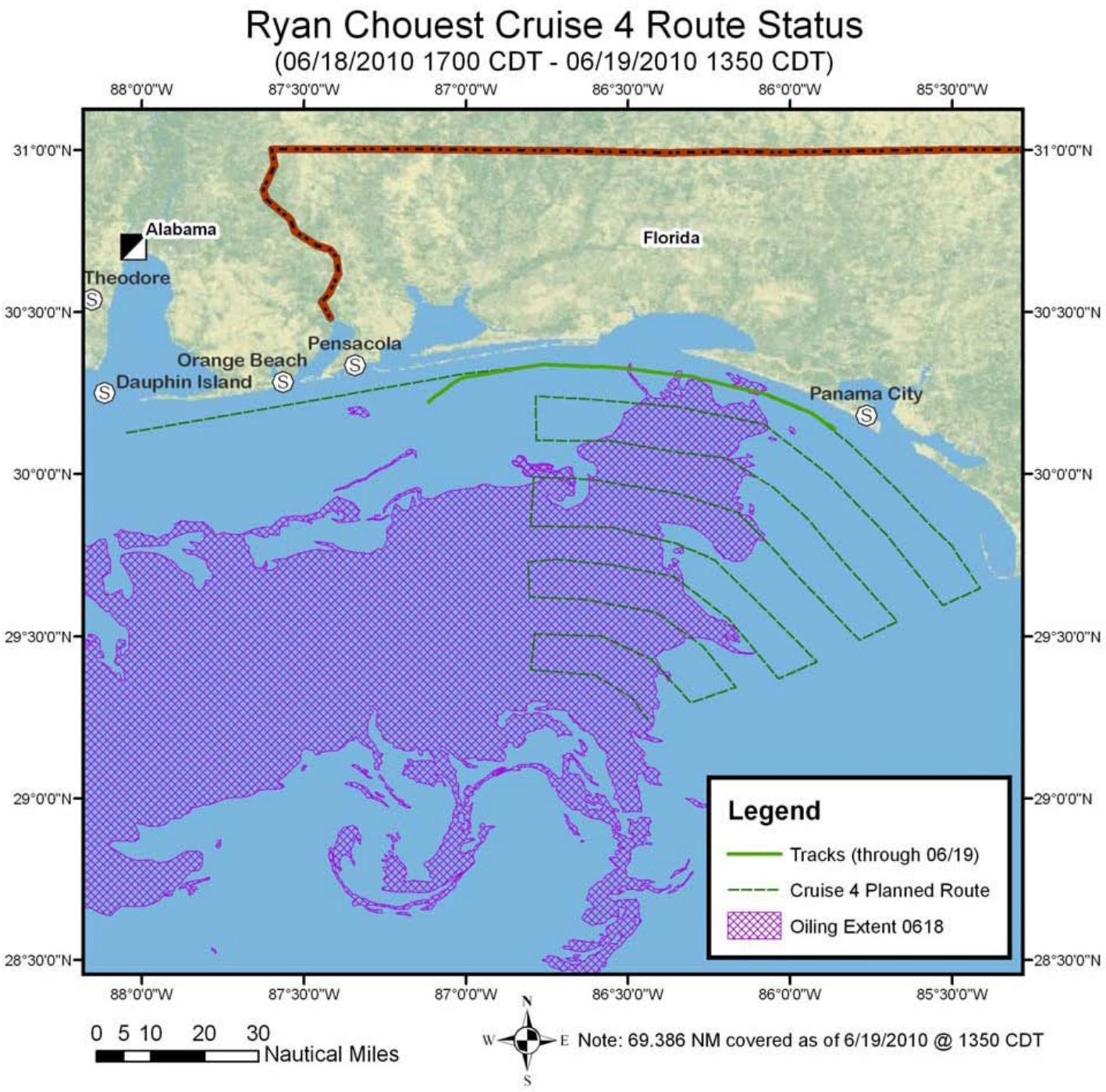

Figure 1: Planned versus actual route course plotted between 06/18/2010 –06/19. We did not have any visual oil observations due to most of route traveled at night. No oil was observed from sunrise to 1350hrs. Purple shaded area represents outline extent of the slick from 06/18 ERMA composite.

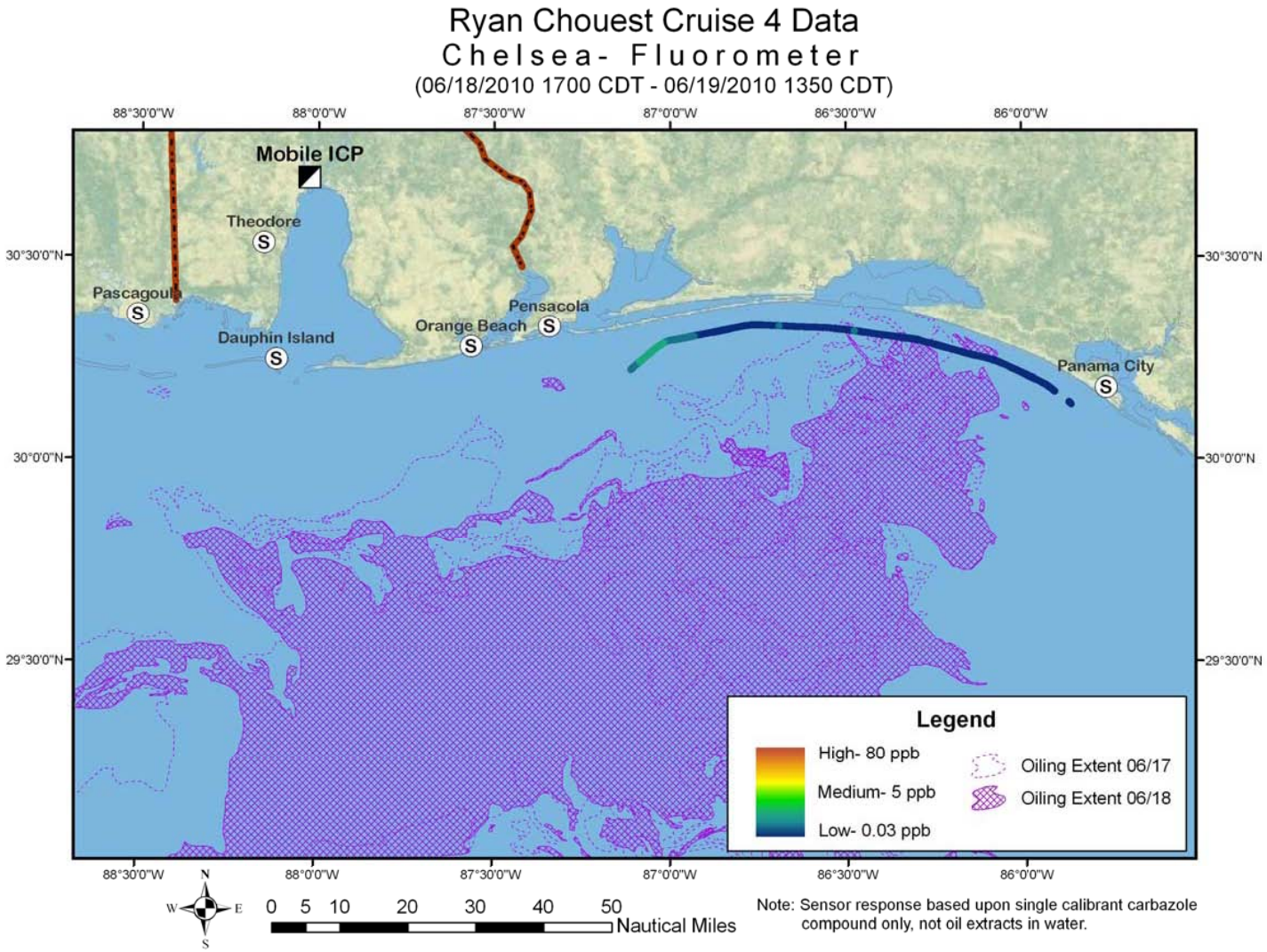

Figure 2. Chelsea fluorometer results plotted with location on cruise 4 track. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

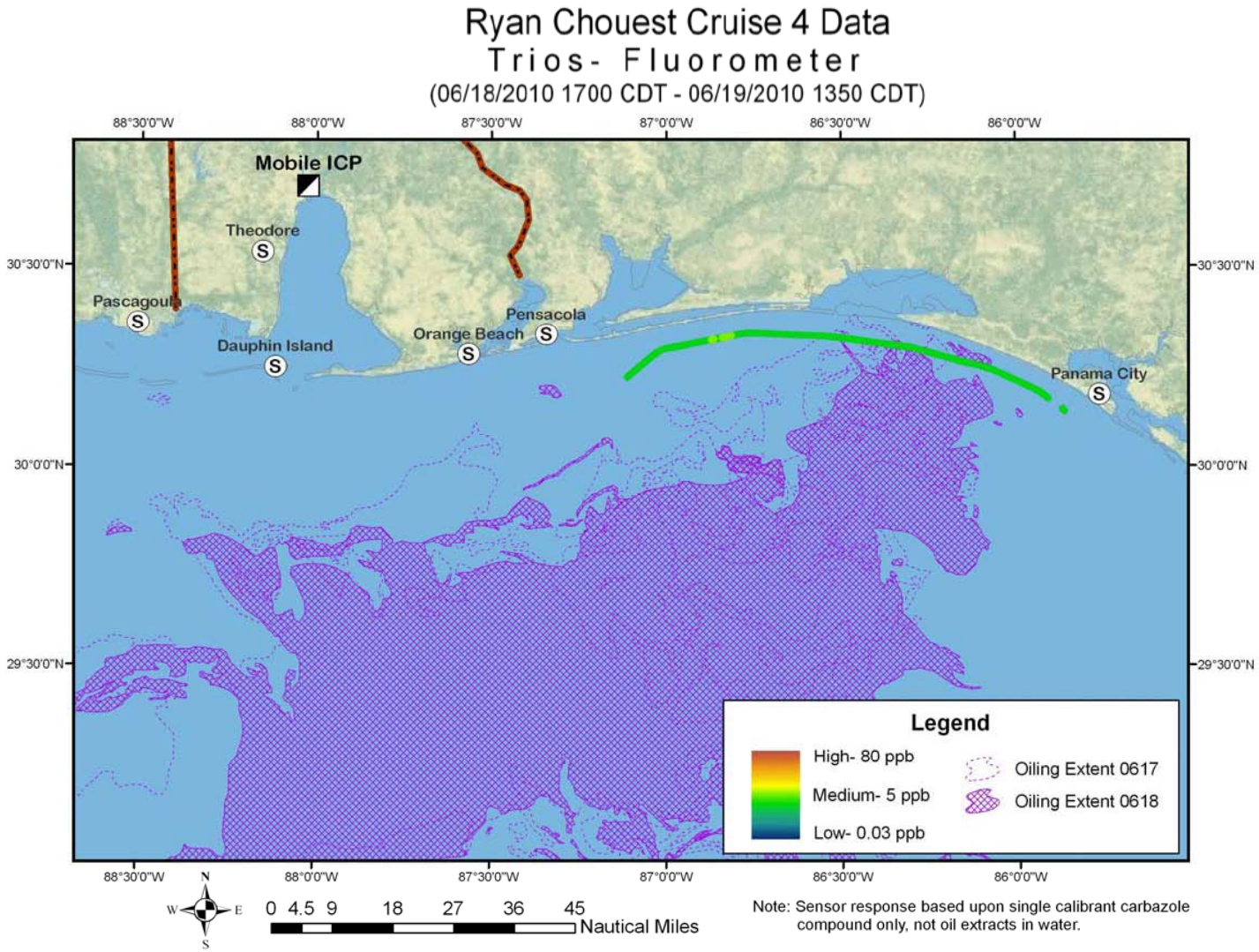

Figure 3. Trios fluorometer results plotted with location on cruise 4 track. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

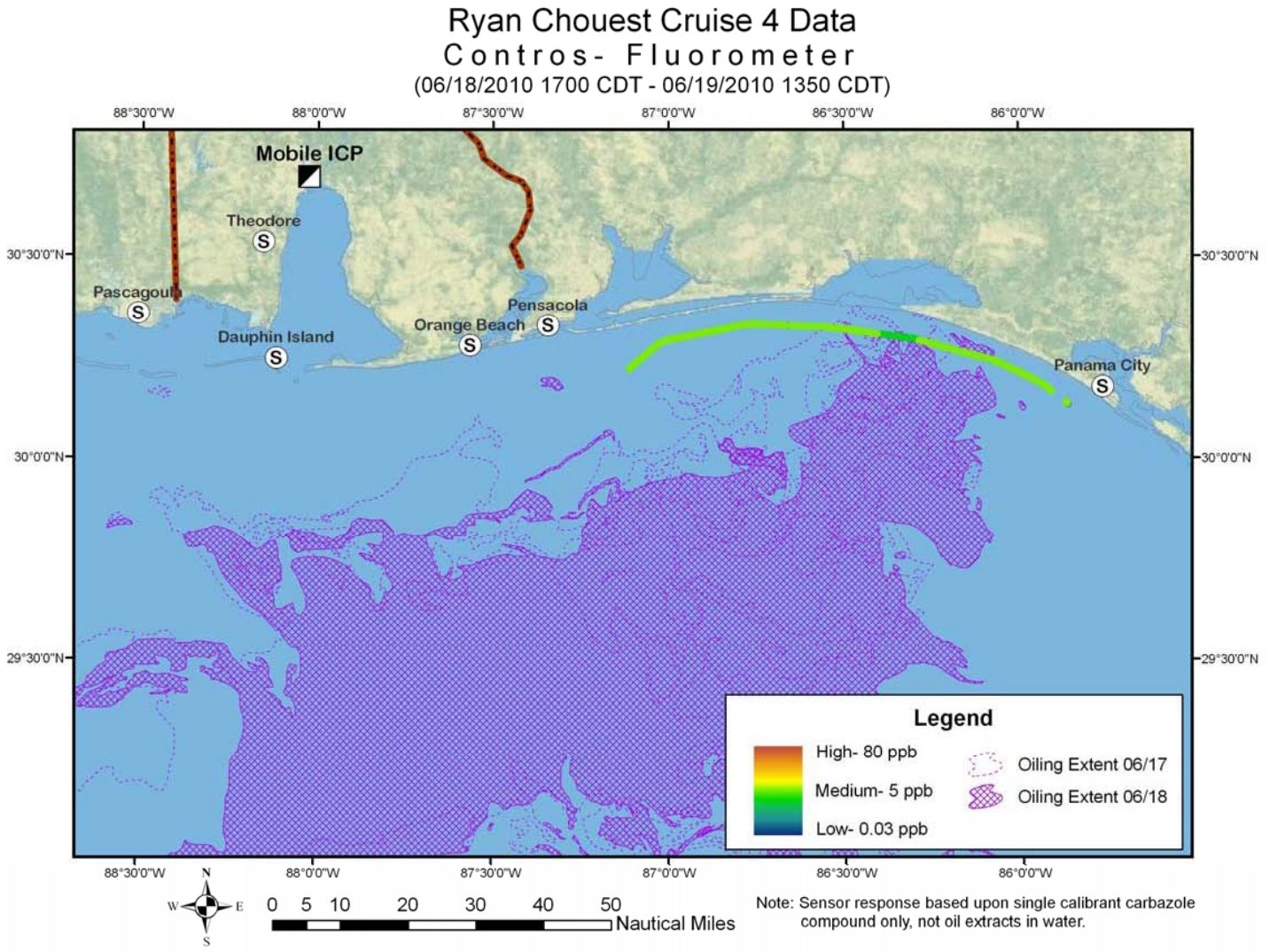

Figure 4. Controls fluorometer results plotted with location on cruise 4 track. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

Problems/operational issues:

As mentioned in the operational notes, the hose stretch seems to allow small residues of contaminants to be released into the water sample. It also causes some of the electrical connections to unplug. To solve the first problem, we will deploy the full length of hose in deeper water and pump water for 30 minutes to flush out contaminants throughout the entire hose. To solve the second problem, we will need to unravel the hose and retape the electrical cord with enough slack to prevent the plugs from becoming detached.

Planned activities for next 24 hours:

We will continue sailing for Port St. Joe and then head SW and follow along the length of the outer perimeter. Then we will make transects NE to SW and attempt to take further vertical Fluorometry casts.